REMARKS

Taking last matters first, in section 29 the Examiner raised a clarity objection according to which the claim language allegedly is too broad compared to the disclosure. It is admitted that the examination must be based on the claim language interpreted in light of the specification. In the present case however, the claim language is perfectly clear and supported by the specification.

In particular, it is pointed out that the notions of "provider edge" (PE), "customer edge" (CE), "virtual private network" (VPN) and "virtual LAN" are very well and unambiguously known by one skilled in the art. They are also defined in the present application.

It must be understood that the present invention takes place in a system comprising a shared network infrastructure comprising interconnected PE devices having CE interfaces for providing CE devices with a communication service. Each CE interface between a CE device and a PE device is allocated to a VPN. A VPN can thus involve different PE and CE devices communicating over CE interfaces and possibly over the shared network infrastructure. The communications over the CE interfaces use tagged data frames. Moreover, each VPN can support a plurality of VLANs.

As a non-limitative example of this three level architecture, the shared network infrastructure could be a national infrastructure shared by different service providers. Each VPN could be the property of a given service provider. And different VLANs of respective firms could each use the VPN of a given service provider. Such arrangement is clearly disclosed in the specification, but also in FIGs. 1-3 and in the independent claims of the present application. In particular, Claim 20 clearly recites the relationships between the above-mentioned elements.

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The Examiner rejects the independent claims of the present application under 35 U.S.C. §102(e) as being anticipated by Glossglauser (US 6,353,596). Reconsideration is requested.

Glossglauser discloses a method and a system for providing a multipoint-to-multipoint multicasting in sub-packet switched communications networks (col. 1, 1.5-8), i.e. for providing a multicast service between multiple senders and multiple receivers (col. 1, 1.21-23).

The multicast service of Glossglauser takes place in a wide area network (reference 15 in FIG. 1) comprising a plurality of nodes and links (col. 4, 1.45-48). The network can support ATM for instance (col. 5, 1.20-21). Communication devices are connected to the network. The communication devices are part of the wide area network or they can represent another network,

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such as a LAN (col.4, l.56-65).

Glossglauser teaches to use a shared tree between senders and receivers to ensure multipoint-to-multipoint multicasting (col.7, l.1-3 and col.8, l.43-45). Hence, in an ATM context, the multicast uses a common VC (virtual connection) between senders and receivers (col.8, l.45-48). A mapping between multiple incoming VCs and one or several outgoing VCs is thus necessary at the switches of the network (col.8, l.48-51).

The system of Glossglauser is thus very different from the one of the present invention. Indeed, no VPN is disclosed in Glossglauser. Therefore, the switches and devices of the network of Glossglauser cannot be confused with CE and PE devices allocated to a VPN.

Moreover, no VLAN is disclosed in Glossglauser, all the more reasons several VLANs are not supported by a VPN in Glossglauser. Hence, Glossglauser does not disclose that an indication identifying a VLAN is received at a PE device. The Examiner's position on this point cannot be followed, as shown by this contradiction: the Examiner equates the VLAN identified in the indication received by a PE device to the VC in which to send a multicast packet (first step of Claim 1), whereas the VC is not yet established (second step of Claim 2).

The subject-matter of independent Claim 20 is even further removed from the teaching of Glossglauser. Indeed, not only does Glossglauser not disclose the main features of Claim 20, i.e. the PE devices, the CE devices, the VPN and the VLANs, but it does not disclose, either, the steps recited in Claim 20.

Therefore, Glossglauser's teaching is very different from the present invention. Indeed, as explained before, the system of Glossglauser is more basic than the one of the invention, in particular since it does not include one or more VPNs supporting one or several VLANs. By contrast, the system in which the present invention takes place needs provisioning so that a VPN service can be carried out. In particular, according to the invention, a correspondence between a CE interface and a VLAN identifier is learned before a VC can be established in the network infrastructure for forwarding frames of said VLAN. This is neither disclosed nor suggested in Glossglauser.

The subject-matter of the independent claims 1 and 20 is thus novel and non-obvious in view of Glossglauser. The same applies to the device independent claims 34 and 49. The other claims are submitted to be allowable as well, in particular since they depend directly or indirectly on an allowable independent claim.

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As for the claim rejection under 35 U.S.C. §101 according to the doctrine of obviousness-type double patenting, it must be noted that the '121 patent (US 6,789,121) recites an invention different from the present invention, although there is some resemblance in the context of application, like the nature of the system in which the invention takes place.

Indeed, '121 claims a method of providing a VPN service through a shared network infrastructure, in which a virtual connection (VC) is established in the shared network infrastructure between two CE interfaces allocated to a VPN, for forwarding traffic data units including a VLAN identifier, and in which the VC has an identifier determined from the VLAN identifier and an identifier of the VPN.

Therefore, '121 relates to a particular VC identifier format (which is not mentioned in the present application). It does not recite any provisioning step. In particular, it does not claim that the VC would be established after the reception by a PE device of a VLAN identifier. Claim 1 of '121 only recites that the VC establishment is intended for forwarding traffic data units including a VLAN identifier.
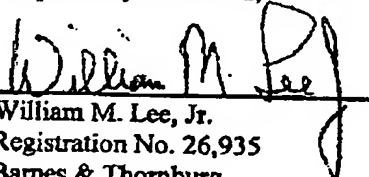
It is even clearer that '121 does not disclose the subject-matter of Claim 20 of the present application, since it does not teach to learn a correspondence between a CE interface and a VLAN identifier, to detect whether a pair of CE interfaces correspond to a common VLAN identifier, and, in response to such detection, to establish a virtual circuit.

For these reasons, the obviousness-type double patenting rejection based on '121 seems unjustified, and reconsideration and withdrawal of the rejection is urged.

In view of the forgoing, it is submitted that this application is in order and in condition for allowance. The Examiner's further and favourable reconsideration in that regard is urged.

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Respectfully submitted,

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